Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Tuesday Do Now**

PPF502, PPF602

Honors Geometry

***\*Fill in the blanks below. Look at page 427 if you need help.***

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is used to find the missing sides of a right triangle. To use the Pythagorean Theorem, you must have the following:

1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle (it doesn’t work with other types of triangles!)
2. The longest side, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which is always directly across from the 90 angle

\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_

Using the Pythagorean Theorem, find the missing side lengths of the following right triangles. If necessary, leave your answers in the simplest radical form.

|  |  |
| --- | --- |
| 1) Solve for the missing side. Leave your answer as a simplified radical. | 2) Solve for the missing side. Leave your answer as a simplified radical. |
| 3) Find the area of the triangle below. | 4) A 16 foot ladder rests against the side of the house, and the base of the ladder is 4 feet away. Approximately how high above the ground is the top of the ladder?   1. 240 ft 2. 20 ft 3. 16.5 ft 4. 15.5 ft |
| 5) A *Pythagorean Triple* is any group of three positive integers which satisfy the equation *a*2 + *b*2 = *c*2, and therefore can be the lengths of the three sides of a right triangle. Which of the following is a Pythagorean Triple?   1. 15, 5, 10   B. 25, 7, 24  C. 3, 8, 12  D. 14, 48, 49  E. none of the above | 6) State whether the following are the side lengths of a right triangle.   1. 36, 48, and 60 \_\_\_\_\_\_\_\_\_\_ 2. 10, 11, and 14 \_\_\_\_\_\_\_\_\_\_ 3. 14, 22, and 26 \_\_\_\_\_\_\_\_\_\_ |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Wednesday Do Now**

PPF502, PPF602

Honors Geometry

|  |  |
| --- | --- |
| 1) A rectangular field shown below is 40 feet wide and 30 feet long. Joe and Jenna are at point B. Joe walks to point C by walking along the edge of the field through point A. Jenna walks to point C by walking diagonally across the field. About how many meters more does Joe walk than Jenna?  **A B**  **C D** | 2) One route along flat terrain from Chicago to Urbana is to drive south from Chicago 300 miles to Urbana, then at Urbana, to drive east 200 miles to Bloomington. If a straight flat road existed between Chicago and Bloomington, how many miles would it be?   1. 10 2. 100 3. 10 |
| 3) Find the area of the triangle below. | 4) Consider the figure below. AB = 26, AC = 25, and AD = BD +14. Find the area of triangle ABD. |
| 5) Which set of side lengths can make a right triangle?  A. 1 m, 2 m, 3 m  B. 2 m, 3 m, 4 m  C. 5 m, 10 m, 12 m  D. 7 m, 24 m, 25 m  E. 8 m, 15 m, 16 m | 6) A triangular section of steel is needed to build a bridge. Two of the sides of this section meet at a 90-degree angle. Which of these could be a possible set of side lengths for this section?  A. 2 ft, 3 ft, 4 ft  B. 12 ft, 16 ft, 20 ft  C. 5 ft, 11 ft, 12 ft  D. 3 ft, 4 ft, 6 ft  E. None of the above |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Thursday Do Now**

Honors Geometry

Add the following postulates from textbook p. 153 – 154 to your yellow sheet:

* Corresponding Angles
* Alternate Interior Angles
* Alternate Exterior Angles
* Consecutive Interior Angles

**Proof 1:**

|  |  |
| --- | --- |
| **Given:** and  **Prove:** *m n* | |
| **Statement** | **Reason** |
| 1) and | 1) Given |
| 2) | 2) Addition |
| 3) | 3) |
| 4) and are supplementary | 4) |
| 5) *m n* | 5) |

**Proof 2:**

|  |  |
| --- | --- |
| **Given:**  **Prove:** *g h* | |
| **Statement** | **Reason** |
| 1) | 1) |
| 2) | 2) |
| 3) | 3) |
| 4) | 4) |

Proof 3:

|  |  |
| --- | --- |
| **Given:** and are right angles  **Prove:** | |
| **Statement** | **Reason** |
| 1) and are right angles | 1) |
| 2) | 2) |
| 3) | 3) |
| 4) | 4) |
| 5) | 5) |

**Proof 4:**

|  |  |
| --- | --- |
| **Given:**  **Prove:** and are complementary | |
| **Statement** | **Reason** |
| 1) | 1) |
| 2) is a right angle | 2) |
| 3) | 3) |
| 4) | 4) Angle Addition Postulate |
| 5) | 5) |
| 6) | 6) Definition of complementary angles |